We claim:

1. A method for determining the extent of lymphatic involvement in a tumor comprising detecting the expression of Prox1 in said tumor.

2. The method of claim 1 wherein expression of said Prox1 is detected by making a measurement selected from the group consisting of:
   a. measuring the amount of Prox1 mRNA; and
   b. measuring the amount of Prox1 protein.

3. The method of claim 1 wherein expression of Prox1 is detected quantitatively in a sample taken from said tumor.

4. The method of claim 1 wherein expression of Prox1 in said tumor is detected with a marker that binds to Prox1 and can be visualized.

5. The method of claim 4 wherein said marker is fused to a Prox1 antibody.

6. A gene therapy vector comprising a gene encoding a Prox1 protein, wherein said vector is capable of expressing Prox1 protein in endothelial precursor cells.

7. A method for promoting the development of lymphatic tissue in a subject in need thereof comprising administering the gene therapy vector of claim 6.

8. A method of purifying endothelial precursor cells having the potential to develop into lymphatic tissue from a sample of cells comprising selecting cells from said sample which express a protein selected from the group consisting of Prox1and LYVE-1.

9. The method of claim 8 wherein said sample of cells comprise cells that express CD31.

10. A method of purifying endothelial precursor cells having the potential to develop into lymphatic tissue from a sample of cells comprising selecting cells from said sample which express CD31 and a protein selected from the group consisting of Prox1 and LYVE-1.

11. A method for promoting the development of lymphatic tissue in a subject in need thereof comprising administering to said subject endothelial precursor cells purified according to the method of claim 8.